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CLAIMS

1.   A method for registering a Wireless Local Area Network (WLAN) as a cellular network routing area, comprising the steps of:

determining a location of a service request from a user within a cellular network;

determining whether the location is in or near a WLAN access point;

if at or near the WLAN access point, maintaining packet data protocol (PDP) context while servicing the request using the WLAN such that interworking between the WLAN and the cellular network is provided.

2.   The method as recited in claim 1, wherein the step of maintaining packet data protocol (PDP) context while servicing the request using the WLAN includes restricting radio signaling between a user and the cellular network while using the WLAN.

3.   The method as recited in claim 1, further comprising the step of receiving a request for service for a routing area in a cellular network.

4.   The method as recited in claim 3, wherein the WLAN is recognized as a routing area of the cellular network.

5.   The method as recited in claim 3, further comprising the step of setting a periodic routing area update timer value while in a WLAN coverage area to reduce signaling while a user is in the WLAN area.

6.   The method as recited in claim 1, further comprising the step of establishing packet switched signaling connection through the PDP context when existing the WLAN.

7.   The method as recited in claim 1, further comprising the step of controlling the loading of cellular cells by shifting user traffic service to WLANs.

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8.   The method as recited in claim 1, wherein the interworking between the cellular network and the WLAN is provided by:

uniquely identifying the WLAN as a routing area of the cellular network; and

5   once identified, setting a routing area update timer to reduce a number of routing area updates to the cellular network.

9.   The method as recited in claim 1, wherein the step of maintaining the PDP context includes maintaining the PDP context to reduce handoff delay while re-
10   entering the UMTS network.

10.   The method as recited in claim 1, further comprising the step of enabling cellular service providers to control the loading of cells by shifting users to WLANs by changing routing area identifiers of the users to that of a WLAN coverage
15   area.

11.   A system for employing a Wireless Local Area Network (WLAN) as a cellular network routing area, comprising:

a cellular network, which is capable of determining a location where a service
20   request is made;

the cellular network comprising a packet-based support node, which determines if the request can be serviced through a WLAN, which is identified in the cellular network as a routing area;

means for maintaining packet data protocol (PDP) context while servicing the
25   request using the WLAN to provide smooth handoff between the WLAN and the cellular network.

12.   The system as recited in claim 11, wherein the means of maintaining packet data protocol (PDP) context includes a preservation function provided in a
30   mobile station.

13.   The system as recited in claim 11, further comprising a unique routing area identifier, which identifies the WLAN in the cellular network.

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14.   The system as recited in claim 11, further comprising a periodic routing area update timer wherein a timer value is employed while in a WLAN coverage area to reduce signaling while a user is in the WLAN area.

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15.   The system as recited in claim 11, further comprising an interworking function for establishing and maintaining user services between the WLAN and the cellular network.

10   16.   The system as recited in claim 11, wherein the cellular network includes a Universal Mobile Telecommunications System (UMTS).

17.   The system as recited in claim 11, wherein the means for maintaining packet data protocol (PDP) context further comprises a Radio Access Bearer (RAB)

15   setup procedure for establishing interworking between the cellular network and the WLAN.

18.   The system as recited in claim 11, wherein the cellular network learns if a user is in a WLAN coverage area via a routing area identifier (RAI) update

20   message.